U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-097-EA

CASEFILE/PROJECT NUMBER (optional): COD 032678, COD 052265, COD 053980, COD 051174, COD 053975, COD 051174

PROJECT NAME: Install new water injection and CO2 line (3 Sundry's), 5 APD'S (4-Re-Drills), 1 APD-Beezley 4X22

LEGAL DESCRIPTION: T. 1N, R. 102W, sec. 5,
T. 2N, R. 103W, sec. 2, 15, 22

APPLICANT: Chevron Production Company

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Carney 12AX5 EA date is 1984; AC McLaughlinA2 is on private surface. For the M.C. HagoodA4 there is no documented NEPA. These actions were on sited 3-1-06, 5-4-06

Proposed Action: (Sundry 1) The applicant is proposing to install a new water injection line from a tie in point along the AC McLaughlin A 2 line running west to the Carney 12AX5 well location. The approximate disturbance will be 1,558' X 40' (1.43 acres). (Sundry 2) The applicant also proposes to install a new water and CO2 injection line from the edge of the M.C. Hagood A 4 location to tie into points to the north and south. The proposed CO2 line will disturb approximately 198' X 40' (0.18 ac) and the water injection line will disturb approximately 112' X 40' (0.10 ac). (Sundry 3) The applicant proposes to install a new CO2 injection line next to an existing water line for approximately 9,223' X 40' (8.47acres). This line will be used to transport CO2 from a tie in point near AC McLaughlin 52X to the well location Rooth 1. Total disturbance for the sundries will be approximately 10.18 acres.

Applicant is proposing to drill one new well and re-drill 4 wells in the Rangely Weber Sand Unit.

NOS Reference #	Well Name	New Access road	Location Size	Pipeline Disturbance	Acres (Total)
Re-drill	MB Larson A 1AX	Use existing	280'X380 (2.44 acres)	1052'X40' (.97 acres)	3.41
Re-drill	MB Larson C 1 AX	25'X30' (.018 acres)	280'X380' (2.44 acres)	1605'X40' (1.47 acres)	3.93
Re-drill	Beezley 1AX22 AX	50'X30' (.034 acres)	290'X345' (2.30 acres)	197'X40' (.18 acres)	2.51
Re-drill	MB Larson B 3AX	50'X30' (.034 acres)	295'X390' (2.64 acres)	458'X40' (.42 acres)	3.09
New	Beezley 4X22	270'X30' (.19 acres)	295'X 390' (2.64 acres)	2109'X40' (1.94 acres)	4.77
				Total Acres for Sundries (above)	10.18
				Total Project BLM Acres	27.89

Total disturbance for the sundries and the well locations with associated roads and pipelines will be 27.89 acres.

There are no fences on the property. Installing gates, cattle guards, or cutting fences will not be required. Approval shall be requested to continue operations should the surface become saturated to a depth of three (3) inches. Turnouts will not be required. All permanent facilities placed on the location will be painted Carlsbad Canyon Brown (Fuller Brand Colorant 31293 or equivalent) to blend with the natural environment.

The well cellar will be covered with steel grating and no hazards will exist for livestock or wildlife.

Rehabilitation of the disturbed areas no longer needed for operation will meet the requirements the BLM.

Water to be used in the drilling of the wells will be from existing injection line on location. Fresh water required for boilers and other needs will be trucked from Chevron's domestic water treatment plant. Fuel gas for drilling will be also by a temporary surface pipeline from the existing residue gas fuel line. A reserve pit will be constructed approximately 8' deep and at least one half of this depth shall be below the surface of the existing ground. The reserve pit will be used as a storage area during the drilling of this well to store non-flammable materials such as cuttings, salts, drilling fluids, chemicals, produced fluids, etc. The pits will be fenced with 32" to 48" high woven wire to protect wildlife and domestic animals. Trash will be confined in a covered container and hauled to an approved landfill. After the completion rig finishes, the reserve pit is covered and the surface is contoured to conform to surrounding terrain. A portable toilet will be supplied for human waste.

There are no ancillary facilities planned for at the present time and none foreseen in the near future.

The White River Resource Area Manager shall be notified 24 hours in advance before any construction begins on the proposed location site.

During operations , if discoveries of any cultural remains, monuments or sites, or any object of antiquity subject to the Antiquity's Act of June, 1906 (34Stat. 225; 16 U.S.C. Secs. 431-433), the Archeological Resources Protection Act of 1979 (PL 96-95), and 43 CFR, Part 3, operations will immediately cease and will be reported directly to the Area Manager. In cases where salvage excavation is necessary, the cost of such excavation shall be borne by the operator, unless otherwise agreed upon.

When all drilling and production activities have been completed, the location site will be reshaped to the original contour. Any drainage re-routed during the construction activities shall be restored to their original line of flow as near as possible. Cuttings and drilling fluids will be buried in the reserve pit. Prior to burial of cutting and mud, any liquid oil or water will be trucked to the recovery plant. The disturbed area not needed for well operation and access roads will be revegetated and rehabilitated per the remainder of the season. The White River resource Area Manager will be notified at least 24 hours prior to commencing reclamation work. All disturbed surfaces will be seeded with the following seed mixture:

Chevron's Seed Mix	
Species (Variety)	**Lbs PLS/Acres**
Crested Wheatgrass (Nordan)	3
Siberian Wheatgrass (Vavilov)	4
Russian Wildrye (Swift)	2
Fourwing Saltbrush (Wytana)	1
Oats (VNS)	0.5
Total	10.5

The seedbed will be prepared by disking following the natural contour. Drill seed on contour at a depth no greater than ½ inch. In areas that cannot be drilled, broadcast at double the seeding rate and harrow seed into the soil. Certified seed will be used. Fall seeding must be completed after September 1, and prior to prolonged ground frost.

The access roads will be upgraded and maintained as necessary to prevent soil erosion, and accommodate year round traffic. Reshape areas unnecessary to operations, distribute topsoil, disk and seed all disturbed areas outside the work area according to the seed mixture chart. Perennial vegetation must be established. Additional work will be required in case of seeding failures, etc. When the well is abandoned, the location will be restored to the original contours. During reclamation of the site, push the fill material into the cuts and up over the back slope. Depressions will not be left that will trap water or form ponds. Distribute topsoil evenly over the location, and seed according to seed mixture chart. The access road and location will be disked prior to seeding. Perennial vegetation must be established. Pits will remain fenced with woven wire until covered. Overhead flagging will be installed over pits should oil accumulate or be discharged. Clean up and rehabilitation operations will begin as soon as the well is completed and should be finished 60-90 days after well completion.

Existing roads and the well location are shown on topographic map A part of the surface use plan. Planned access roads and existing wells in the area are shown on topographic map B part of the surface use plan.

No Action Alternative: In the no-action alternative the CO2 and water injection line and the 5 wells with associated access roads and flowlines would not be permitted; therefore there would not be any new disturbance.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: To respond to the request by applicant to exercise lease rights and develop hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is located approximately 9 miles

south of the Dinosaur National Monument Visitors Center. Dinosaur National Monument has been designated as a PSD class II airshed with special designations regarding visibility. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM_{10}) associated with fugitive dust. In addition, slight increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide may also occur during construction due to the combustion of fossil fuels associated with construction and drilling operations. Also, non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight short term increases as a result of the proposed actions (no national ambient air quality standards have been set for non-criteria pollutants). Unfortunately, no monitoring data is available for the survey area. However, it is apparent that current air quality near the proposed location is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM_{10}. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be near 50 micrograms per cubic meter ($\mu g/m^3$). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM_{10} (24-hour average) of 150 $\mu g/m^3$.

Environmental Consequences of the Proposed Action: Cumulative impacts detrimental to air quality in the Coal Oil Basin north of Rangely, CO can be expected as carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, particulate matter, and sulfur dioxide levels are elevated due to increased oil and gas development. Construction equipment producing elemental and organic carbon via fuel combustion combined with surface disturbing activities that leave soils exposed to eolian processes will both increase production of particulate matter (PM_{10}) during construction. Elemental and organic carbon existing in the air as PM_{10} can reduce visibility and increase the potential of respiratory health problems to exposed parties. However, following initial construction, suggested mitigation, and successful interim reclamation, criteria pollutant levels should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust), vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill

slopes). If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road/pipeline construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

CULTURAL RESOURCES

Affected Environment: MB Larson A 1AX well location; MB Larson C 1 AX well location; Beezley 1AX22 AX well location; MB Larson B 3AX well location; Beezley 4X22 well location: The proposed well locations are located in an area that is covered by an inventory (Larralde 1981) and an agreement with the Colorado SHPO.

The proposed new water injection line from a tie in point along the AC McLaughlin A 2 line running west to the Carney 12AX5 well: The proposed water injection line location is located in an area that is covered by an inventory (Larralde 1981) and an agreement with the Colorado SHPO.

The proposed new water and CO2 injection line from the edge of the M.C. Hagood A 4 location to tie into points to the north and south: The proposed water injection line location is located in an area that is covered by an inventory (Larralde 1981) and an agreement with the Colorado SHPO.

The new CO2 line from a tie in point near AC McLaughlin 52X to the well location Rooth 1: The proposed CO_2 injection line location is located in an area that is covered by an inventory (Larralde 1981) and an agreement with the Colorado SHPO.

Environmental Consequences of the Proposed Action: MB Larson A 1AX well location; MB Larson C 1 AX well location; Beezley 1AX22 AX well location; MB Larson B 3AX well location; Beezley 4X22 well location: There are no known cultural resources at the proposed well locations.

The proposed new water injection line from a tie in point along the AC McLaughlin A 2 line running west to the Carney 12AX5 well: There are no known cultural resources at the proposed pipeline location.

The new water and CO2 injection line from the edge of the M.C. Hagood A 4 location to tie into points to the north and south: There are no known cultural resources at the proposed well location.

The new CO2 line from a tie in point near AC McLaughlin 52X to the well location Rooth 1: there are no known cultural resources along the proposed pipeline route.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: For the proposed action: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The proposed action is located within Alkaline Slope and Clayey Saltdesert ecological sites, which are dominated by salt tolerant vegetation. The dominate plant community for these sites consist of greasewood, Wyoming big sagebrush, and various saltbrushes such as shadscale, Gardner saltbrush, mat saltbush, and fourwing saltbrush. The understory of these shrubs is dominated by western wheatgrass, salina wildrye, and squirreltail. Cheatgrass and halogeton are both annual plant species that are undesirable, invasive, and non-native plants which are present within the locality of the proposed action. Both of these species are highly adapted to disturbed soils.

Soils within the project area are principally a Billings Silty Clay Loam (Alkaline Slope ecological site), Chipeta-Killpack Silty Clay Loam, 3-15% Slopes (Clayey Saltdesert ecological site), and Chipeta Silty Clay Loam (Clayey Saltdesert ecological site). These soil types have a

high clay content that is moderate to highly erosive and receives low precipitation with rapid runoff, thus limiting forage production and hampering re-vegetation efforts leading to the potential establishment of invasive species.

Drought conditions have been very prevalent within the Coal Oil Basin area, which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: Weed species found in the area are effectively controlled by the establishment of seeded species within disturbed areas. The proposed seed mix, which includes native and non-native species, is recommended because its associated plant species are highly adapted to this site (heavy clay soils) and offer the greatest opportunity to establish vegetation cover. Limiting factors for successful reclamation of the site includes soils with a high clay content, low annual precipitation, drought prone, and cheatgrass establishment on the adjacent rangelands. These mitigated non-native species have demonstrated themselves to have the greatest ability to establish, provide soil protection, and offer a competitive interaction against invasive, non-native species such as cheatgrass.

Prompt reclamation with successful establishment would help prevent cheatgrass and halogeton from establishing on disturbed sites. If other noxious weeds were to invade the site, prompt control would prevent movement to the adjacent plant communities.

There is an opportunity for other noxious weed species to be transported onto landscapes associated with the proposed action by construction and/or support equipment.

Environmental Consequences of the No Action Alternative: None

Mitigation: The applicant shall monitor the disturbed and reclaimed areas for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density as a result of the proposed action.

Upon detection and/or notification of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

Any hay and/or straw used for this proposal shall be certified free of noxious weeds.

MIGRATORY BIRDS

Affected Environment: The habitat within and surrounding the project area is characterized as a salt-desert shrub community. These areas are dominated by several common shrubs, including shadscale saltbush, Gardner saltbush, rabbitbrush, snakeweed, and sagebrush. Understory ground cover within the project area is dominated by nonnative grasses including crested wheatgrass and cheatgrass. These communities support several species of migratory birds during the spring and summer months, including western meadowlark, sage sparrow, vesper sparrow, lark sparrow, and sage thrasher. Horned larks are common year-round residents of the basin.

Environmental Consequences of the Proposed Action: Because earthwork and pad construction will occur after July 15, there will be no negative impact on the nesting activity of migratory birds at the project location. The ground disturbance will take place in habitat types which occur throughout Coal Oil Basin and are represented by approximately 10,000 acres. Therefore impact on habitat availability for migratory birds which derive necessary life history requirements from the affected habitats will be extremely minimal.

Environmental Consequences of the No Action Alternative: There would be no effect on migratory birds or their habitat under the no action alternative.

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: White-tailed prairie dogs, a BLM Sensitive species, occur within the project area and their burrow systems fall within the proposed well pad and flow line locations. The number of prairie dog burrows that would be affected by the proposed action are shown in the table below. Prairie dogs are broadly distributed throughout Coal Oil Basin and provide essential habitat for both the burrowing owl (BLM Sensitive, State Threatened) and black-footed ferret (Federally Endangered). Burrowing owls are known to occur in Coal Oil Basin, but none were observed during on-site visits conducted on 2/2/06 and 5/18/06. Of course, burrowing owls are migratory and would not be expected to be present during the initial visit. Black-footed ferrets, once extirpated from Colorado, have been reintroduced into the White River Resource Area in two locations. As a nonessential, experimental population under section 10(j) of the Endangered Species Act, ferrets were first released in Coyote Basin (~6 miles SW of Coal Oil Basin) in 1999 and were released in the Wolf Creek Management Area (~13 miles NE of Coal Oil Basin) in 2001. Subsequent releases of captive-raised and wild-born transplants have continued each year since the initial release in each area. There is a strong likelihood that ferrets currently occupy prairie dog colonies within Coal Oil Basin, due to its position between the two reintroduction areas and because there is sufficient habitat (prairie dog colonies) within the basin. However, black-footed ferret presence has not been documented in this area to date.

Table 1. White-tailed prairie dog burrows within the proposed project area.

Site	Acres	Single-entrance Burrows	Mound Burrows

Site	Acres	Single-entrance Burrows	Mound Burrows
MB Larson A1	3.41	16	0
MB Larson B3	3.09	32	4
MB Larson C1	3.93	18	2
Beezley 1-22	2.51	25	2
Sundry 1	1.43	15	1
Sundry 2	0.28	0	0
Sundry 3	8.47	9	2

Environmental Consequences of the Proposed Action: With construction activity conducted outside the time period April 1 to July 15, prairie dog pups (young-of-the-year) would be old enough to be capable of dispersing on their own in order to relocate following ground disturbance in occupied areas directly impacted by earthwork associated with the proposed project. In the short term, there would be some displacement of prairie dogs along flow lines and well pads. As reclamation is implemented along flow lines and pad edges, prairie dogs are expected (and have demonstrated the ability in nearby areas) to return to the project area. Overall long term habitat loss for prairie dogs and associated species will amount to ±13 acres. With current occupied prairie dog habitat estimated at ~5,000 acres in Coal Oil Basin, this disturbance will be minimal and unlikely to affect the productivity and stability of the prairie dog population.

Burrowing owls and black-footed ferrets, being strongly associated with prairie dogs and their burrow systems, would also be less affected by the proposed action by limiting earthwork and construction activities to outside the time period April 1 to July 15. This would avoid the breeding season for both species and give young-of-the-year opportunity to become independent in the unlikely event that one of these species does occupy the project area. However, as described above, no burrowing owls were observed at the proposed sites during an onsite visit in May and the likelihood that black-footed ferrets occupy the area is low.

Environmental Consequences of the No Action Alternative: Under the no action alternative, there would be no disturbance that would affect prairie dogs or habitat for burrowing owls and black-footed ferrets.

Mitigation: The operator will conduct earthwork outside of the period April 1 to July 15 to avoid disturbance of prairie dog reproduction activities, black-footed ferret reproduction activities, and burrowing owl nesting activity.

Finding on the Public Land Health Standard for Threatened & Endangered species: Public Land Health Standards for those threatened and endangered species associated with white-tailed prairie dogs in Coal Oil Basin are being met. The proposed action would have no adverse, population-level affect on prairie dogs or the capacity of the area to support resident populations of burrowing owls or black-footed ferrets. As prairie dogs re-occupy the project area following successful reclamation and establishment of a perennial grass groundcover in disturbed areas, it is likely that site capacity for this species will increase slightly due to an increased forage base and diminished visual obstruction. Overall, this would be consistent with the intent of the Health Standards.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed action is situated entirely within the White River near Rangely, CO fifth field watershed. Sixth and seventh field watersheds affected by the proposed action are the White River (7.78 acres) and Stinking Water Creek (66.25 acres) catchment areas. Stinking Water Creek is a tributary to the White River below Rangely, CO. The White River is a tributary to the Green River in Utah which is a tributary to the Colorado River. The affected portion the White River is limited to approximately 540 meters of injection line running west from AC McLaughlin A2 to the Carney 12AX5 well location.

The "Status of Water Quality in Colorado – 2004" plus the 2006 update (CDPHE, 2006b) were reviewed for information related to the proposed actions. The proposed project area is located entirely within stream segments 21 and 22 of the White River basin. Stream segment 21 of the White River Basin is defined as the main stem of the White River from a point immediately above the confluence with Douglas Creek to the Colorado/Utah boarder. Stream segment 21 has not been designated use-protected. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review. The state has classified segment 21 as having the following beneficial uses: Warm aquatic life 1, Recreation 1a, water supply and Agriculture.

Stream segment 22 is defined as all tributaries to the White River including all wetlands, lakes, and reservoirs, from a point immediately above the confluence with Douglas Creek to the Colorado/Utah boarder, except for specific listings in segment 23. The State has classified stream segment 22 as "Use Protected". The antidegredation review requirements in the Antidegredation

Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. Stream segment 22 has been further designated by the state as being beneficial for the following uses: Warm Aquatic Life 2, Recreation 1b, and Agriculture. For stream segment 22, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 325/100 ml, and 205/100 ml E. coli. (CDPHE, 2006b).

Stinking Water Creek (stream segment 22) flows primarily in response to snow melt, groundwater discharge and precipitation events (see Table 1). Table 1 contains historic water quality and flow data for Stinking Water Creek near Rangely, CO. Note that high values for specific conductance (SC) correspond with low flow periods (ground water discharge [base flow]) while lower SC values are associated with periods of higher flow. This correlation indicates that normal surface runoff is of fair water quality while SC readings taken during low flows are skewed by the geology and soil chemistry of the channel bottom at the point of measurement. Recent onsite evaluation of Stinking Water Creek reviled a severely entrenched, sediment rich, "F" type Rosgen stream channel. "F" type Rosgen stream channels are defined as entrenched, meandering channels that are observed to be working towards re-establishing functional floodplains within the confines of a channel that is consistently increasing in width within the valley. The "F" stream systems are characterized as having high channel width/depth ratios at the bankfull stage, and bedform features occurring as a moderated riffle/pool sequence. "F" stream channels can develop very high bank erosion rates, lateral extension rates, significant bar deposition and accelerated channel aggradation and/or degradation while providing for very high sediment supply and storage capacities (Rosgen, 1996).

Table 1: Stinking Water Creek-Near Rangely, CO (T2N, R102W, Sect. 32 SENE)

Date	Temp. ©	SC	pH	Type of Meas.	Discharge (cfs)	Comments
4/9/1981	--	--	--	OBS	0.000	Dry
5/4/1981	20	1,890	7.6	Rod	5.99	
10/13/1981	7.9	1,120	7.9	Rod	31.9	~100-200' above bridge
4/12/1982	16	30,700	--	Rod	0.020	~100-200' above bridge
5/11/1982	21.5	31,890	--	Rod	0.100	~100-200' above bridge
11/4/1982	8	16,500	--	Volumetric	0.005	~100-200' above bridge
4/6/1983	5.3	20,000	7.9	Rod	0.032	SC pegged meter
5/4/1983	12.8	7,940	8.3	Rod	0.425	
6/1/1983	23.8	27,000	8.3	Volumetric	0.008	Lab SC
7/11/1983	--	--	--	OBS	0.000	Dry
4/6/1984	8.5	9,430	8.2	Rod	0.600	
5/11/1984	21.4	3,430	8.3	Rod	2.14	
6/30/1984	26.9	20,000	8.2	Volumetric	0.004	SC pegged meter
7/24/1984	32.6	7,560	7.8	Volumetric	0.011	
9/5/1984	--	--	--	OBS	0.000	Dry
4/16/1985	10.1	7,580	8.2	Volumetric	0.004	
5/17/1985	22.3	12,520	8.2	Volumetric	0.005	
6/7/1985	21.1	2,140	8.4	Rod	8.33	
7/26/1985	--	--	--	OBS	0.000	Dry
4/10/1986	12.8	2,830	8.3	Rod	3.15	
5/29/1986	25.1	14,430	8	Volumetric	0.040	

Table 1:	Stinking Water Creek-Near Rangely, CO (T2N, R102W, Sect. 32 SENE)					
Date	Temp. ©	SC	pH	Type of Meas.	Discharge (cfs)	Comments
7/2/1986	--	--	--	OBS	0.000	Dry
5/9/1988	22	4,920	7.9	Volumetric	0.002	
6/8/1988	--	--	--	OBS	0.000	Dry

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE, 2006c and 2006d, respectively) were also reviewed for information related to the proposed project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2006 list of segments needing development of TMDLs includes two segments within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development) and segment 22, tributaries to the White River, Douglas Creek to the Colorado/Utah boarder, specifically West Evacuation Creek, and Douglas Creek (sediment impairments). Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes two White River segments that are potentially impaired – 9 and 22. The proposed actions will occur to the north of the White River while all listed portions of stream segment 22 are found south of the White River. Thus, no impacts to any 303(d) or M&E listed streams will occur as a result of the proposed actions.

Ground Water: A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed actions. Information presented in Topper et al. (2003) indicates the extent of the Mesaverde aquifer encompasses the area know as the "Coal Oil Basin" north of Rangely, CO. The proposed locations are situated on the northern limb of the Rangely Anticline which surface geologic formation is the Cretaceous aged Mancos Shale (Tweto, 1979). The Mancos Shale (confining unit) has an approximate thickness of 7,000'feet. This unit is comprised primarily of shale however within the unit, the Frontier Sandstone may occur as a local aquifer which is of poor water quality (highly saline). Quaternary Alluvium in Stinking Water Creek and the White River (White River Alluvial Aquifer) is located down gradient the proposed actions.

Environmental Consequences of the Proposed Action: Surface Water: Further use of existing access roads, construction of new access roads, and construction of well pads/pipelines will increased soil exposure to erosional processes. Heavy equipment use will destroy any existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events. Elevated erosion resulting from the proposed actions will increase sedimentation and salt loading in Stinking Water Creek and the White River deteriorating downstream water quality. Given the low permeability rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient as runoff and could potentially deteriorate surface water quality.

Ground Water: In the event of any leaks or spills, local ground water may be adversely impacted as runoff could carry contaminates down gradient to alluvial aquifers such as the White River Alluvial Aquifer which is a source of drinking water for the town of Rangely, CO. Potential for

ground water contamination increases if fractures in the formation are encountered. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants in these areas.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations. Under Phase I Stormwater Regulations, the Environmental Protection Agency (EPA) has required National Pollution Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction activities that disturb five or more acres. The operator will obtain a phase I permit and provide its EPA approved Stormwater Pollution Prevention Plan (SWPPP) to the BLM. Any operations resulting in discharges of fill material (e.g. fill material generally include, without limitation: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction) involving waters of the US (drainages shown as blue lines on 1:24,000 maps) will require a Army Corps 404 permit whether the work is permanent or temporary. The operator will also be required to provide the BLM with documentation that all required permits were obtained.

All surface disturbing activities will strictly adhere to "Gold Book" (fourth edition) surface operating standards for oil and gas exploration and development (copies of the "Gold Book" can be obtained at the WRFO). All new/upgraded roads will be crowned and ditched per "Gold Book" standards. To mitigate erosion from well pads and access roads, and effectively reduce salt loading to Stinking Water Creek and the White River, all activity shall cease when soils or road surfaces become saturated to a depth of three inches. Final abandonment of the well pads and all initial surface disturbance associated with pipeline construction will be promptly recontoured as close as possible to the original grade, re-seeded with a BLM approved seed mixture (see Vegetation portion of this document), fitted with appropriate drainage relieve structures (e.g. water bars) and sediment retention barriers (e.g. silt fences and straw bails), and covered with available woody debris (flow deflectors and sediment traps).

To mitigate potential surface erosion at well pads during the production phase of operations, interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), and promptly re-seeded. The use of biodegradable fabrics (large diameter mesh designs) is recommended to help retain soil moisture, promote vegetative growth, and stabilize slopes. Silt fences or straw bails will be required at the toe of slopes exceeding 5% (e.g. fill slopes, ephemeral drainages, etc…).

To mitigate potential contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to contacting soils.

Finding on the Public Land Health Standard for water quality: None of the affected watersheds are currently listed on the State's M&E or 303(d) lists of impaired (or potentially impaired) streams and currently meets standards. However, many of the upper tributaries to Stinking Water Creek are ephemeral in nature and will not meet standards during peak flows. Implementation of the proposed actions should not change this status so long as suggested mitigation is carried forward.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no wetlands or riparian habitats that would conceivably be affected by this action. The White River, which represents the nearest aquatic habitat, is separated from the Sundry 1 location by ~1.5 km (1 mile) and from the remainder of the project locations by >5 km (3 miles).

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: The project would have no conceivable impact on aquatic habitat conditions addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:
No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS) in Rio Blanco County, CO. The following table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil Name	Slope	Affected Acres (w/in 30m radius)	Ecological site	Salinity (Mmohs/cm)	Run Off	Erosion Potential	Bedrock

Soil Name	Slope	Affected Acres (w/in 30m radius)	Ecological site	Salinity (Mmohs/cm)	Run Off	Erosion Potential	Bedrock
Billings silty clay loam	0-5%	8.12	Alkaline Slopes	2-8	Rapid	Moderate to high	>60
Chipeta silty clay loam	3-25%	41.52	Clayey Saltdesert	4-16	Rapid	High	10-20
Chipeta-Killpack silty clay loam	3-15%	24.39	Clayey Saltdesert	4-16	Rapid	High	10-20

Controlled surface use (CSU-1) "saline soils" will be encountered at all locations. Generally, controlled surface use stipulations would apply to all surface disturbing activities located on CSU-1 "saline soils". Controlled surface use stipulations require the operator to submit an engineered construction and reclamation plan to the BLM for approval by the Area Manager. However, given the degree of previous surface disturbance in the proposed project area, lack of topography, and suggested mitigation, an engineered construction/reclamation plan will NOT be required.

7-Billings silty clay loam (0 to 5 percent slopes) is a deep, well drained soil situated on alluvial valley floors, flood plains, narrow valley floors, and terraces. It formed in calcareous, silty alluvium derived dominantly from shale. The native vegetation is mainly desert shrubs and grasses. Typically, the upper part of the surface layer is light gray silty clay loam about 2 inches thick. The lower part is pale brown silty clay loam about 4 inches thick. The underlying material to a depth of 60 inches or more is silty clay loam that has a few fine *gypsum crystals*. Permeability of this Billings soil is slow. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is rapid, and the hazard of water erosion is moderate to high.

16-Chipeta silty clay loam (3 to 25 percent slopes) is a shallow, well drained soil found on low, rolling hills and on toe slopes. It formed in residuum derived from *calcareous*, *gypsiferous* shale. The native vegetation is mainly salt-tolerant shrubs and grasses. Typically, the surface layer is light brownish gray silty clay loam about 3 inches thick. The next layer is light olive gray silty clay about 6 inches thick. The underlying material is light olive gray silty clay that has fine shale chips and seams of crystalline gypsum and is about 9 inches thick. Shale is at a depth of 18 inches. Depth to shale ranges from 10 to 20 inches.

Permeability of this Chipeta soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is high.

18-Chipeta-Killpack silty clay loams (3 to 15 percent slopes) is located on low, rolling hills and on ridges, toe slopes, and the sides of narrow valleys. The native vegetation is mainly salt-tolerant desert shrubs and some grasses. Elevation is 5,100 to 5,800 feet. The average annual precipitation is 7 to 9 inches, the average annual air temperature is 47 to 49 degrees F, and the average frost-free period is 105 to 135 days. The Chipeta soil is shallow and well drained. It formed in residuum derived dominantly from *calcareous gypsiferous* shale. Typically, the

surface layer is light brownish gray silty clay loam about 3 inches thick. The next layer is silty clay about 6 inches thick. The underlying material is silty clay that has fine shale chips and seams of *crystalline gypsum* and is about 9 inches thick. Platy shale is at a depth of 18 inches. Depth to shale ranges from 10 to 20 inches. Permeability of the Chipeta soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is high.

The Killpack soil is moderately deep and well drained. It formed in residuum and colluvium derived dominantly from *calcareous*, *gypsiferous* shale. Typically, the surface layer is light gray and light brownish gray silty clay loam 4 inches thick. The underlying material is silty clay loam that has some fine shale chips and seams of *crystalline gypsum* and is 26 inches thick. Platy shale is at a depth of 30 inches. Depth to shale ranges from 20 to 40 inches. Permeability of the Killpack soil is slow. Available water capacity is moderately low. Effective rooting depth is 20 to 40 inches. Runoff is rapid, and the hazard of water erosion is high. If this unit is used for urban development, the main limitations are shallow soil depth, slow permeability, and rapid runoff.

Environmental Consequences of the Proposed Action: Well pads, access roads, and pipelines are all situated on soils which have been identified as having rapid runoff rates and high erosive potential. Given the calcareous and gypsiferous nature of the affected soils, improper drainage and soil stabilization techniques will increase potential for overland flows accelerating erosion rates leading to soil piping, head cutting and gully formation. Accelerated erosion from the disturbed areas will increase salt loading down gradient deteriorating vegetative health and vigor. Removal of limited ground cover will also expose soils to erosional processes decreasing hill slope stability and increasing the sedimentation rates and salt loads down gradient. In addition, heavy traffic will increase soil compaction further decreasing infiltration rates which in turn will also elevate the potential for erosive overland flows.

Environmental Consequences of the No Action Alternative: None

Mitigation: Given the salt concentration of the impacted soils, the operator will be responsible for monitoring salts leaching from soils. If large salt deposits begin to appear, the operator will notify BLM, together they will coordinate the application of best management practices to help mitigate the problem. For additional mitigation refer to the Water Quality portion of this document.

Finding on the Public Land Health Standard for upland soils: Undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in previously disturbed areas of the Coal Oil Basin located north of Rangely, CO. Areas dominated by undesirable vegetative species such as halogeton and cheatgrass lack desired soil stabilization properties and exhibit lower infiltration and permeability rates. These areas are classified as early-seral ecological sites which provide little resource value and do not meet Public Land Health Standards for upland soils. At locations defined as mid-seral ecological sites (see vegetation portion of this document), acceptable components within the plant community provide sufficient soil stabilization as well as appropriate infiltration and permeability rates. These areas are

meeting standards for public land health. With successful reclamation no deterioration in soil health is anticipated.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The proposed action is located within Alkaline Slope and Clayey Saltdesert ecological sites, which are dominated by salt tolerant vegetation. The dominate plant community for these sites consist of greasewood (*Sarcobatus vermiculatus)* and various saltbrushes such as shadscale (*Atriplex confertifolia)*, gardner saltbrush (*Atriplex gardneri*), mat saltbush (*Atriplex corrugate),* and fourwing saltbrush (*Atriplex canescens*). Other brushes intermixed in the area are various rabbitbrushes (*Chrysothamnus spp.)* and Wyoming big sagebrush (*Artemisia tridentata)*. The understory of these shrubs primarily consists of western wheatgrass (*Agropyron smithii*), salina wildrye (*Elymus salinus*), sandberg bluegrass (*poa secunda*), and bottlebrush squirreltail (*Sitanion hystrix*). Cheatgrass (*Bromus tectorum*) and halogeton (*Halogeton glomeratus*) are undesirable, invasive, and alien plant species that are present within the locality of the proposed action.

The soils within the project area are principally a Billings Silty Clay Loam (Alkaline Slope ecological site) and Chipeta Silty Clay Loam (Clayey Saltdesert ecological site). These soil types have a high clay content that is moderate to highly erosive and receives low precipitation with rapid runoff. Thus, these characteristics limit vegetative production, increase the potential for erosion and sediment loss, and hamper rehabilitation efforts.

Drought conditions have been very prevalent within the Coal Oil Basin area which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: The proposed action would disturb a mid to low seral class of saltdesert shrub community for a total of 27.89 acres. Four of the five wells are considered re-drills, which included enlarged well pads and existing well hole will not be utilized. Therefore, the re-drills and associated development will disturb new vegetation communities and existing reclaimed well pads. The 27.89 acres of disturbance can be broken down into long-term and short-term vegetative losses

Long-term vegetative losses would include 12.74 acres disturbed that are associated with well pads and access roads. This acreage would decrease with well pad reclamation outside of the operational area. Short-term losses include 15.16 acres resulting from pipelines. Short-term soil and vegetation disturbances would be offset by successfully reclaiming the disturbed area with a seed mix that is suited for this ecological site. As this area has a component of cheatgrass and halogeton (undesirable, non-native, and annual plant species) within the plant community, successful re-vegetation efforts would slightly increase desirable plant species within the rangelands.

Without successful reclamation of seeded species within this harsh landscape, a potential exist to increase the ground cover of undesirable plant species that invade disturbed sites. Limiting factors for successful reclamation of the site includes soils with a high clay content, low annual precipitation, drought prone, grazing use, and cheatgrass (invasive, non-native, and annual grass) establishment on the adjacent rangelands.

Previously this area has entailed considerable impacts from oil and gas activities from a network of well pads, powerlines, pipeline corridors, and access roads; which have resulted in a fragmentation and reduction of available/productive ecological sites.

Environmental Consequences of the No Action Alternative: None

Mitigation: Promptly re-vegetate all disturbed areas (prior to the first growing season following the disturbance) outside of the well operation and access roads, including all cut and fill slopes and topsoil stockpiles, with the proposed seed mix. Seeding rates are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (i.e. steep slopes), then broadcast seed using double the seeding rate and then harrow to insure seed coverage. Applied seed must be certified and free of noxious weeds.

The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclamation plant species within three growing seasons. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM.

At all points the pipelines crosses a drainage and/or areas of overland water flow, no berming of pipeline shall occur that prevents the natural flow of water.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* The proposed action would disturb a segment of the Alkaline Slope and Clayey Saltdesert ecological sites. Therefore, the action would further fragment these landscapes into isolated and disconnected parcels.

Early seral ecological sites associated with the proposed action lack desirable plant species at an appreciable density and frequency level, thus they are not meeting standards. This is largely due to the prevalence of cheatgrass and halogeton within the vegetative understory. A slight positive benefit would be received through a successful re-vegetation effort, thus increasing preferred plant species within this low producing rangeland. Mid seral ecological sites at the proposed action locality have acceptable components within the plant community and are meeting standards for public land health.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There are no aquatic habitats that would conceivably be affected by this action. The White River, which represents the nearest aquatic habitat, is separated from

the Sundry 1 location by ~1.5 km (1 mile) and from the remainder of the project locations by >5 km (3 miles).

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The project would have no conceivable impact on aquatic habitat conditions addressed in the Standards.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The Rangely Oil Field supports a small resident herd of pronghorn that are acclimated to routine oil and gas development activities. There are no habitat features within the project area that are of special importance to pronghorn. Several species of raptors forage opportunistically within the project area, including red-tailed hawks and rough-legged hawks. However, no nesting substrate is present within or adjacent to the project area. A high density of roads, pipelines, and production facilities already exist in the immediate vicinity of the project area.

Environmental Consequences of the Proposed Action: No substantial wildlife displacement effects will occur as a result of the proposed action because the level of activity in the area is already high, as is the current amount of development. Reclamation of pipeline right-of-ways with perennial grass seed should lead to an increase in herbaceous forage cover within one growing season after ground disturbing activities and thus retain the habitat function of these stretches for herbivorous species such as pronghorn and small mammals. Establishment of habitat conditions suitable for small mammals following reclamation would also maintain conditions suitable for opportunistic raptor foraging. Overall, the level of surface disturbance would be insignificant on a landscape scale and additional wildlife displacement problems are not likely to occur due to current level of development in the immediate area.

Environmental Consequences of the No Action Alternative: Under the no action alternative, there would be no negative impact on terrestrial wildlife or their habitat.

Mitigation: See mitigation for Threatened, Endangered and Sensitive Animal Species (above).

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Much of the understory vegetation within the project area is dominated by non-native annuals such as cheatgrass and halogeton, but the woody component of these areas remains largely intact. As a result, these areas cannot be considered to be meeting public land health standards. However, wildlife populations continue to persist in the area,

making use of these non-native habitat components, in addition to the native components. Adequate site reclamation provides the opportunity to establish more desirable plant communities. Movement of these communities from an annual-dominated understory to a perennial bunchgrass understory following reclamation will be more consistent with meeting the land health standard.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management	X		
Forest Management	X		
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise			
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation		X	
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of the wells is Mancos and Chevron's targeted zone is in the Weber. During drilling potential water, oil and gas zones will be encountered from surface to the targeted zone. Hydrogen sulfide (H2S) gas exists in the Weber Formation within the Rangely Field. Concentrations vary across the field (+/- 100-700 ppm) due to a long history of production in conjunction with water and CO2 injection. All of the wells are located in the northwestern corner of the Rangely Field part of the Weber Sand Unit which has been in effect since 1957.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. Adherence to Chevron's "H2S Contingency Plan" will minimize potential hazards associated with H2S. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: Further recovery of the oil and gas resources within the Weber formation will not occur.

Mitigation: Re-entry wells must have a cement bond log run on the well bore casing to verify quality and extent of existing cement.

PALEONTOLOGY

Affected Environment: MB Larson A 1AX, MB Larson C 1 AX, Beezley 1AX22 AX, and MB Larson B 3AX re-entries: The proposed well re-entries are in an are generally mapped as the Mancos Shale (Tweto 1979) which the BLM has classified as a Condition II formation meaning it's potential for producing scientifically important fossils is considered fairly low. Most of the fossils produced are marine invertebrates though on rare occasions vertebrates can occur.

The Beezley 4X22 well pad and access is a new action/well that appears to be located in an area mapped as Mancos Shale (Tweto 1979) which the BLM has classified as a Condition II formation meaning it's potential for producing scientifically important fossils is considered fairly low. Most of the fossils produced are marine invertebrates though on rare occasions vertebrates can occur.

The proposed new water injection line from a tie in point along the AC McLaughlin A 2 line running west to the Carney 12AX5 well: The proposed water injection line is located in an area generally mapped as the Mancos Shale formation which the BLM, WRFO has classified as a Condition II fossil formation meaning it is known to produce fossil resources. However, the fossils are mostly marine invertebrates which are not generally considered scientifically important. However, on rare occasions vertebrate fossil have been found making these fossil of great scientific importance.

The proposed new water and CO2 injection line from the edge of the M.C. Hagood A 4 location to tie into points to the north and south: The proposed water injection line is located in an area generally mapped as the Mancos Shale formation which the BLM, WRFO has classified as a Condition II fossil formation meaning it is known to produce fossil resources. However, the fossils are mostly marine invertebrates which are not generally considered scientifically important. However, on rare occasions vertebrate fossil have been found making these fossil of great scientific importance.

The proposed CO_2 injection line from the AC M^{c}Glaughlin 52X to the Rooth#1 well location is located in an area generally mapped as the Mancos Shale (Tweto 1979) which the BLM has classified as a condition II formation meaning, in this case, that it is known to produce abundant marine invertebrate fossils and occasionally vertebrate fossils. Vertebrate fossils are generally considered to be very scientifically important.

Environmental Consequences of the Proposed Action: MB Larson A 1AX, MB Larson C 1 AX, Beezley 1AX22 AX, and MB Larson B 3AX re-entries: There is a very small, limited

potential to impact scientifically important fossil resources should it become necessary to excavate into the underlying rock formation to level the well pad or excavate the reserve/blooie pit or excavate into the underlying rock to bury the associated pipelines for the wells.

The proposed new Beezley 4X22 well location and access road: There is a very small, limited potential to impact scientifically important fossil resources should it become necessary to excavate into the underlying rock formation to level the well pad or excavate the reserve/blooie pit or excavate into the underlying rock to bury the associated pipelines for the wells.

The proposed new water injection line from a tie in point along the AC McLaughlin A 2 line running west to the Carney 12AX5 well: If it becomes necessary to excavate into the underlying rock formation to bury the pipe line there is a potential to impact fossil resources. However, the likelihood of impacting scientifically important vertebrate fossil is fairly low.

The proposed new water and CO2 injection line from the edge of the M.C. Hagood A 4 location to tie into points to the north and south: If it becomes necessary to excavate into the underlying rock formation to bury the pipe line there is a potential to impact fossil resources. However, the likelihood of impacting scientifically important vertebrate fossil is fairly low.

The proposed new CO_2 injection line from the AC M^{c}Laughlin 52X well to the Rooth #1 well a limited potential to impact scientifically important fossil resources should it become necessary to excavate into the underlying rock formation to bury the pipeline to the desired depth.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: For the proposed action: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. The proposed CO_2 injection pipeline from the AC McLaughlin tie in point to the Rooth #1 well shall be spot checked for fossil resource after the pipeline trench has been excavated and before the pipeline is laid in the trench.

RANGELAND MANAGEMENT

Affected Environment: The proposed action is located in the Coal Oil Basin section of the Artesia allotment (06308), which is authorized for sheep use by Morapos Sheep Company. Grazing use by sheep in the allotment can be authorized from December 1st through April 20th.

Soils within the project area are principally a Billings Silty Clay Loam, 0-5% Slopes (Alkaline Slope ecological site), Chipeta-Killpack Silty Clay Loam, 3-15% Slopes (Clayey Saltdesert ecological site), and Chipeta Silty Clay Loam, 3-25% Slopes (Clayey Saltdesert ecological site), which are erosive in nature and dominated by a salt tolerant desert shrub and grass community. These brush/grass communities are utilized by sheep for meeting forage requirements, particularly during winter months. Soils in Coal Oil Basin typically have a high clay content that are moderate to highly erosive and receives low precipitation with rapid runoff, thus limiting forage production and hampering re-vegetation efforts.

Drought conditions have been very prevalent within the Coal Oil Basin area, which has hindered the successful establishment of reclaimed plant species of other related disturbances in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in a portion of these disturbed areas which provide little forage and/or resource value.

Environmental Consequences of the Proposed Action: The individual proposed action would have minimal impacts on the authorized grazing use because the amount of new surface disturbance (27.89 acres) is nominal in regards to the scale of the allotment (49,096 acres).

The 27.89 acres of disturbance can be broken down into long-term and short-term disturbances (with successful rehabilitation). Long-term disturbances include 12.46 acres associated with well pads and 0.28 disturbed BLM acres from road construction / upgrades, thus a total of 12.74 acres of long-term disturbance. This acreage would decrease with well pad reclamation outside of the operational area. The remaining 15.16 acres are short-term disturbances with successful reclamation associated with pipelines.

Long-term forage losses associated with the individual proposed action are estimated at 1.5 active Animal Unit Months (AUMs) due to a reduction of forage availability. An AUM is the amount of forage necessary for the substance of 5 sheep (1 cow) for a period of 1 month. Previously this allotment has entailed considerable impacts from oil and gas activities, which have resulted in a reduction and fragmentation of available rangelands and in a loss of forage for grazing use.

Short-term soil and vegetation disturbances (15.16 acres) would be offset in the long-term by

successfully reclaiming the disturbed area with a seed mix that is suited for this ecological site. Therefore, a forage source for livestock would occur upon successfully reclaimed pipelines.

As this area has a component of cheatgrass and halogeton (undesirable, non-native, and annual plant species) within the plant community, successful re-vegetation efforts would slightly increase desirable forage species within the rangelands. Without successful reclamation of seeded species within this harsh rangeland, a potential exist to increase the ground cover of undesirable plant species that invade disturbed sites, thus decreasing available forage.

Many of the access roads, pipelines, and well locations are locating in areas with highly erosive soils such as Billings Silty Clay Loam, 0-5% Slopes, Chipeta-Killpack Silty Clay Loam, 3-15% Slopes, and Chipeta Silty Clay Loam, 3-25% Slopes. There are several earthen stock ponds within the project area that could be impacted (i.e prematurely filled with sediment) from increased siltation resulting from the proposal. Therefore, all surface disturbances associated with the proposal need to provide for the collection and retention of sediment and ensure successful revegetation on all disturbed sites, even around permanent facilities.

If the proposed action was authorized during the grazing period, it would have some impacts while sheep are grazing. This is in part due to the increased activity associated with the development of the proposed action and decrease in rangelands available for grazing. Also, BLM grazing permit holders have experienced injury and losses of livestock due to heavy truck travel and inadequate fencing of disposal pits at the pads. Other impacts to livestock grazing may include such influences as a modification in sheep distribution, reduction in available forage, injury/loss to livestock, and impediments to livestock grazing and movement.

Overall, a slight positive benefit would be received through successful re-vegetation efforts on pipelines, thus increasing preferred forage plants within this mid to low producing rangeland. However, the cumulative impacts from past, present, and possible future oil and gas activities may have a long-term effect on the native rangeland's carrying capacity, thus influencing authorized AUMs. This possible affect would be determined during the grazing permit renewal process which includes an evaluation of forage capacity available for livestock. It is foreseeable that the grazing permit holder could loose a portion of permitted active AUMs due to a loss of forage and fragmentation of the rangelands associated with oil and gas development within the authorized BLM grazing allotment.

Environmental Consequences of the No Action Alternative: None

Mitigation: Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition. All pits need to be fenced with woven wire strung to the ground's surface to prevent sheep, especially young lambs, from entering the pits. On-site silt retention methods need to be designed and implemented for all roads and well pads to minimize silt loads into the watersheds of nearby stock ponds.

VISUAL RESOURCES

Affected Environment: The proposed actions are located in an area with a VRM III and VRM IV classification. The objective of the VRM III class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The objective of the VRM IV class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Environmental Consequences of the Proposed Action: The proposed actions could be visible to a casual observer traveling along SH 64 for brief periods of time. Since the Chevron oil field consists of numerous existing producing well pads, the proposed action would not dominate the view or be the major focus of attention. The applicant proposes to paint all above ground facilities an environmental friendly color to minimize the contrast with the surrounding vegetation and land features. The level of change to the characteristic landscape would be less than moderate and the objectives of the VRM III and VRM IV classifications would be retained.

Environmental Consequences of the No Action Alternative: There would be no environmental impacts.

Mitigation: None

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action, has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED:

Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division (APCD), 2005. "Colorado Air Quality Data Report – 2004," September 2005.

Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC), 2004a. Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin. Adopted 1983 and Effective January 20, 2004.

CDPHE-WQCC, 2006b. "Status of Water Quality in Colorado – 2006, The Update to the 2002 and 2004 305(b) Report," April 2006.

CDPHE-WQCC, 2006c. "Regulation No. 93, 2006 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs," effective April 30, 2006.

CDPHE-WQCC, 2006d. "Regulation No. 94, 2006 Colorado's Monitoring and Evaluation List," effective April 30, 2006.

Larralde, Signa L.
1981 Cultural Resource Inventory of a Sample of BLM Lands in The Rangely Oil Field, Rio Blanco County, Northwestern Colorado. Nickens and Associates, Montrose, Colorado.

Rosgen, D.L. 1996. Applied River Morphology, Wildland Hydrology, Pagosa Springs, Colorado.

Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, Colorado.

Tweto, Ogden
1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Jed Carling	Rangeland Management Specialist	Invasive, Non-Native Species
Brian Holmes	Wildlife Biologist	Migratory Birds
Brian Holmes	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Melissa J. Kindall	Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Brian Holmes	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Nate Dieterich	Hydrologist	Soils

Name	Title	Area of Responsibility
Jed Carling	Rangeland Management Specialist	Vegetation
Brian Holmes	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Robert Fowler	Forester	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Jed Carling	Rangeland Management Specialist	Rangeland Management
Linda Jones	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources
Melissa J. Kindall	Range Technician	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2006-097-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve development of the CO2 and water injection line and the 4 re-drills with associated flowlines as described in the proposed action, with the addition of the mitigation measures listed below. This development, with mitigation, is consistent with the decisions in the White River ROD/RMP, and environmental impacts will be minimal.

MITIGATION MEASURES: 1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust), vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

2. To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes). If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road/pipeline construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

3. For the proposed action: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such

materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. The applicant shall monitor the disturbed and reclaimed areas for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density as a result of the proposed action.

6. Upon detection and/or notification of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

7. Any hay and/or straw used for this proposal shall be certified free of noxious weeds.

8. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

9. The operator will be responsible for complying with all local, state, and federal water quality regulations. Under Phase I Stormwater Regulations, the Environmental Protection Agency (EPA) has required National Pollution Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction activities that disturb five or more acres. The operator will obtain a phase I permit and provide its EPA approved Stormwater Pollution Prevention Plan (SWPPP) to the BLM. Any operations resulting in discharges of fill material (e.g. fill material generally include, without limitation: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction)

involving waters of the US (drainages shown as blue lines on 1:24,000 maps) will require a Army Corps 404 permit whether the work is permanent or temporary. The operator will also be required to provide the BLM with documentation that all required permits were obtained.

10. All surface disturbing activities will strictly adhere to "Gold Book" (fourth edition) surface operating standards for oil and gas exploration and development (copies of the "Gold Book" can be obtained at the WRFO). All new/upgraded roads will be crowned and ditched per "Gold Book" standards. To mitigate erosion from well pads and access roads, and effectively reduce salt loading to Stinking Water Creek and the White River, all activity shall cease when soils or road surfaces become saturated to a depth of three inches. Final abandonment of the well pads and all initial surface disturbance associated with pipeline construction will be promptly recontoured as close as possible to the original grade, re-seeded with a BLM approved seed mixture (see Vegetation portion of this document), fitted with appropriate drainage relieve structures (e.g. water bars) and sediment retention barriers (e.g. silt fences and straw bails), and covered with available woody debris (flow deflectors and sediment traps).

11. To mitigate potential surface erosion at well pads during the production phase of operations, interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), and promptly re-seeded. The use of biodegradable fabrics (large diameter mesh designs) is recommended to help retain soil moisture, promote vegetative growth, and stabilize slopes. Silt fences or straw bails will be required at the toe of slopes exceeding 5% (e.g. fill slopes, ephemeral drainages, etc…).

12. To mitigate potential contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to contacting soils.

13. Given the salt concentration of the impacted soils, the operator will be responsible for monitoring salts leaching from soils. If large salt deposits begin to appear, the operator will notify BLM, together they will coordinate the application of best management practices to help mitigate the problem. For additional mitigation refer to the Water Quality portion of this document.

14. Promptly re-vegetate all disturbed areas (prior to the first growing season following the disturbance) outside of the well operation and access roads, including all cut and fill slopes and topsoil stockpiles, with the proposed seed mix. Seeding rates are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (i.e. steep slopes), then broadcast seed using double the seeding rate and then harrow to insure seed coverage. Applied seed must be certified and free of noxious weeds.

15. The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclamation plant species within three growing seasons. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities

at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM.

16. At all points the pipelines crosses a drainage and/or areas of overland water flow, no berming of pipeline shall occur that prevents the natural flow of water.

17. Re-entry wells must have a cement bond log run on the well bore casing to verify quality and extent of existing cement.

18. For the proposed action: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

19. The proposed CO_2 injection pipeline from the AC M^{c}Laughlin tie in point to the Rooth #1 well shall be spot checked for fossil resource after the pipeline trench has been excavated and before the pipeline is laid in the trench.

20. Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition. All pits need to be fenced with woven wire strung to the ground's surface to prevent sheep, especially young lambs, from entering the pits. On-site silt retention methods need to be designed and implemented for all roads and well pads to minimize silt loads into the watersheds of nearby stock ponds.

NAME OF PREPARER: Tamara Meagley 6-1-06

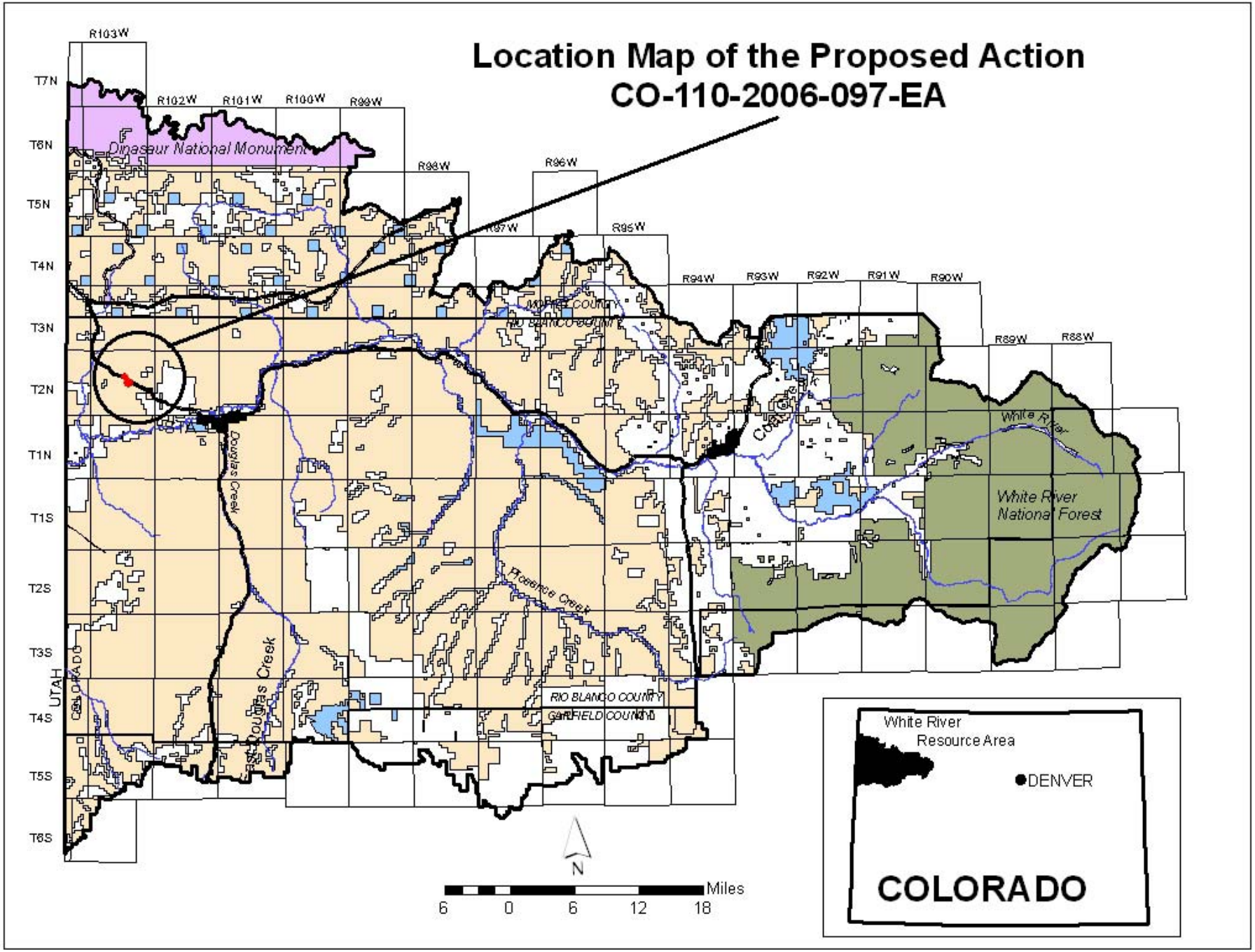
NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: Kurt F. Walter
Field Manager

DATE SIGNED: 06/05/06

ATTACHMENTS: Location map of the proposed action.

CO-110-2006-097-EA 32


Location Map of the Proposed Action
CO-110-2006-097-EA
R103W
R102W
R101W
R100W
R99W
R98W
R97W
R96W
R95W
R94W
R93W
R92W
R91W
R90W
R89W
R88W
T7N
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
T6S
Dinosaur National Monument
Douglas Creek
Douglas Creek
Piceance Creek
RIO BLANCO COUNTY
GARFIELD COUNTY
White River
White River National Forest
UTAH
COLORADO
N
Miles
6 0 6 12 18
White River Resource Area
DENVER
COLORADO